

WHAT IS CLAIMED IS:

1. A frequency generator comprising:  
at least one voltage controlled oscillator (VCO) locked in a phase locked loop (PLL), wherein the VCO generates quadrature output signals at a desired center frequency; and  
a plurality of cascaded divide-by-two divider stages operational to divide the VCO quadrature output signals in the frequency domain and generate a plurality of divided frequency signals.
2. The frequency generator according to claim 1, further comprising a plurality of mixers and a plurality of voltage or current summers, wherein the plurality of mixers and voltage or current summers operate to combine the divided frequency signals in a single-sideband combination to generate open loop output signals at desired frequencies without disturbing the VCO center frequency.
3. A method of generating carrier frequencies, the method comprising the steps of:  
providing at least one VCO locked in a PLL, wherein the VCO generates quadrature output signals at a desired center frequency, and a plurality of cascaded divide-by-two divider stages; and  
dividing the VCO quadrature output signals in the frequency domain to generate a plurality of divided frequency signals there from.
4. The method according to claim 3, further comprising the steps of:  
further providing a plurality of mixers and a plurality of voltage or current summers; and  
combining desired divided frequency signals in a single-sideband combination via the plurality of mixers and the plurality of voltage or current summers, to generate open loop output signals at desired frequencies without disturbing the VCO center frequency.